

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for treating a contaminated gas stream, the gas stream comprising one or more contaminants, comprising:
combusting a feed material[[,]] to produce a contaminated gas stream;
comminuting a plurality of sorbent particles having a first size distribution to form comminuted sorbent particles having a second size distribution, wherein the second size distribution is smaller than the first size distribution and wherein the comminuting step occurs on-site with a plant in which the feed material is combusted; and
thereafter introducing directly the comminuted sorbent particles into the gas stream to remove the one or more contaminants, wherein the comminuting step is performed in a jet mill.
2. (Currently Amended) The method of claim 1, wherein the comminuted sorbent particles are free of intermediate storage after the ~~comminuting step is performed in a jet mill~~.
3. (Original) The method of claim 1, wherein the one or more contaminants comprise an air toxic and wherein the time between the completion of the comminution step to the introducing step is no more than about 30 seconds.
4. (Currently Amended) The method of claim 1, wherein the sorbent ~~is activated carbon~~ removes mercury from the contaminated gas stream and wherein the sorbent is activated carbon.

5. (Currently Amended) The method of claim 3, wherein the air toxic is at least one of nickel, arsenic, chromium, mercury, selenium, lead, a halogen, and a halide and wherein the comminuting step is performed dry.

6. (Original) The method of claim 1, wherein the first size distribution has a P_{90} size ranging from about 10 microns to about 1 millimeter and the second size distribution has a P_{90} size ranging from about 0.5 to about 25 microns.

7. (Original) The method of claim 1, wherein, in the comminuting step, the size reduction factor ranges from about 5 to about 200.

8. (Original) The method of claim 1, wherein the comminuted sorbent is not stored before the introducing step.

9. (Original) The method of claim 1, wherein the comminuting step comprises:
entraining the sorbent particles in a high velocity fluid stream; and
impacting the sorbent particles at the velocity of the fluid stream against at least one of another particle and a stationary comminution surface to effect size reduction.

10. (Currently Amended) A system for treating a contaminated gas stream, the contaminated gas stream comprising one or more contaminants, comprising:

a comminution device operable to effect size reduction of a plurality of sorbent particles and form a plurality of comminuted particles, wherein the comminution device is a jet mill;

a plurality of nozzles distributed through the gas stream and operable to introduce the plurality of comminuted particles into the gas stream; and

a particle removal device operable to remove at least most of the introduced comminuted particles and form a treated gas stream, wherein the comminution device is in direct fluid

communication with the plurality of nozzles such that no intermediate storage of the comminuted particles takes place between the comminution device and the nozzles and wherein the plurality of sorbent comminuted particles are able to remove the one or more contaminants.

11. (Currently Amended) The system of claim 10, wherein the ~~comminution device is a jet mill~~ plurality of nozzles are positioned in a duct and wherein the comminution device effects comminution in the substantial absence of a liquid phase.

12. (Original) The system of claim 10, wherein the one or more contaminants comprise an air toxic.

13. (Original) The system of claim 10, wherein the sorbent is activated carbon.

14. (Original) The system of claim 12, wherein the air toxic is at least one of nickel, arsenic, chromium, mercury, selenium, lead, a halogen, and a halide.

15. (Original) The system of claim 10, wherein the sorbent particles before comminution have a P_{90} size ranging from about 10 microns to about 1 millimeter and, after comminution, a P_{90} size ranging from about 0.5 to about 25 microns.

16. (Original) The system of claim 10, wherein, in the comminution device, the size reduction factor ranges from about 5 to about 200.

17. (Original) The system of claim 10, wherein the particle removal device, nozzles, and comminution device are located at the end user site.

18. (Currently Amended) The system of claim 10, wherein the comminution device entrains the sorbent particles in a high velocity fluid stream and impacts the sorbent particles at the velocity of the fluid stream against at least one of another particle and a stationary comminution surface to effect size reduction.

19-27. (Canceled)

28. (New) A method for treating a contaminated gas stream, the gas stream comprising one or more contaminants, comprising:

transporting a particulate unmilled sorbent material and coal from a remote location to a utility plant site;

combusting the coal to produce a contaminated gas stream;

milling the unmilled particulate sorbent material to produce a plurality of milled sorbent particles, the unmilled particulate sorbent material having a first size distribution and the milled sorbent particles having a second size distribution, wherein the second size distribution is smaller than the first size distribution and wherein the comminuting step occurs on-site with the plant in which the coal is combusted; and

thereafter introducing the comminuted sorbent particles into the gas stream to remove the one or more contaminants.

29. (New) The method of claim 28, wherein the milled sorbent particles are introduced directly into the gas stream after the milling step.

30. (New) The method of claim 28, wherein the milling step is performed by a jet mill.

31. (New) The method of claim 28, wherein the milled sorbent particles are free of intermediate storage after the milling step.

32. (New) The method of claim 28, wherein the one or more contaminants comprise an air toxic and wherein the time between the completion of the milling step to the introducing step is no more than about 30 seconds.

33. (New) The method of claim 33, wherein sorbent material is activated carbon and wherein the air toxic is at least one of nickel, arsenic, chromium, mercury, selenium, lead, a halogen, and a halide.

34. (New) The method of claim 28, wherein the first size distribution has a P_{90} size ranging from about 10 microns to about 1 millimeter and the second size distribution has a P_{90} size ranging from about 0.5 to about 25 microns.

35. (New) The method of claim 28, wherein, in the milling step, the size reduction factor ranges from about 5 to about 200.

36. (New) The method of claim 28, wherein the milling step comprises:
entraining the particulate unmilled sorbent in a high velocity gas stream; and
impacting the particulate unmilled sorbent at the velocity of the gas stream against at least one of another particle and a stationary comminution surface to effect size reduction.